What is claimed is:

1. A cytoprotective compound, comprising: a polycyclic compound optionally having two, three or four carbon rings, the compound also having a first end and a second end wherein a phenol group is located at the first end and a terminal carbon ring is located at the second end, the terminal carbon ring having an alkyl ether functional group, the alkyl portion of which having a formula $C_n H_{2n+2}$ wherein n is at least 3 and less than 20.

2. A cytoprotective compound, according to claim 1, wherein the polycyclic compound is a four ring compound, and the carbon ring at the second end is a D ring, the D ring having the alkyl ether functional group.

3. A cytoprotective compound according to claim 2, wherein the four ring compound is an estrogen compound.

4. A cytoprotective compound according to claim 3, wherein the alkyl ether functional group is on carbon 17 in the D ring.

5. A cytoprotective compound according to claim 4, wherein the alkyl ether functional group is in an orientation selected from the group consisting of an alpha or beta isomeric orientation on the carbon.

6. A cytoprotective compound, according to claim 1, wherein the alkyl group is selected from a long chain saturated-alkyl group, long chain unsaturated alkyl group and a cyclo alkyl group.

7. A cytoprotective compound according to claim 4, comprising: a 17-butoxyestra 1,3,5(10) triene-3-ol.

8. A cytoprotective compound, according to claim 4, comprising: a 17-hexyloxyestra-1, 3,5(10)-triene-3-ol.

9. A cytoprotective compound according to claim 4, comprising: a 17-octyloxyestra-1, 3,5(10)-triene-3-ol.

10. A cytoprotective compound, comprising: an estrogen compound having a terminal phenol group at a first end of the compound and a carbon ring at a second end of the compound, the carbon ring at the second end having an alkyl ether functional group, the alkyl portion of the group having a formula $C_n H_{2n+2}$ wherein n is at least 3 and less than 20.

11. A pharmaceutical formulation, comprising: a cytoprotection effective dose of a polycyclic compound having a phenolic ring at a first terminal position, any of one, two or three additional ring structures and an alkyl ether functional group on a carbon ring in a

second terminal position.

12. A method of retarding the development of a degenerative condition associated with a population of cells in a subject, comprising:

administering to the subject predisposed to the degenerative condition, an effective amount of a polycyclic phenolic compound in a physiologically acceptable formulation, the polycyclic phenolic compound having a phenol located at a first terminal position, and optionally any of one, two or three additional ring structures; the compound having an alkyl ether group located on a carbon ring at a second terminal position, the alkyl ether group having an alkyl with a formula $C_n H_{2n+2}$ wherein n is at least 3 and less than 20, the compound retarding the development of the degenerative condition.

13. A method according to claim 12 wherein the polycyclic phenolic compound is a four ring compound and the carbon ring at the second end is a D ring, the D ring having the alkyl ether functional group on the 17 carbon position.

14. A method according to claim 12, wherein the population of cells is selected from cells or tissues comprising any of the group consisting of stem cells, blood cells, epithelial cells, stromal cells including connective tissue cells, neuronal cells, muscle tissue cells, endocrine tissue cells, whole organ cells, bone cells, eye cells, skin cells, reproductive tract cells and urinary tract cells.

15. A method according to claim 12, wherein the condition is a bone disorder.

16. A method according to claim 15, wherein the bone disorder is selected from osteoporosis, osteomyelitis, ischemic bone disease, fibrous dysplasia, rickets, Cushing's syndrome and osteoarthritis.

17. A method according to claim 12, where the condition is a cardiac disorder.

18. A method according to claim 17, wherein the cardiac disorder is selected from cardiac ischemia, myocardial infarction, chronic or acute heart failure, cardiac dysrhymias, atrial fibrillation, paroxymial tachycardia, ventricular fibrillation and congestive heart failure.

19. A method according to claim12, wherein the condition is selected from a skin disorder, a pulmonary disorder, a hepatic disorder, a renal disorder, a vascular disorder and an autoimmune disorder.

20. A method according to claim 12, wherein the condition is an eye disorder.

21. A method according to claim 20, wherein the eye disorder is selected from the group consisting of macular degeneration and retinal degeneration.

22. A method according to claim 12, wherein the condition is a neurodegenerative disease.

23. A method according to claim 22, wherein the neurodegenerative condition is selected from Alzheimer's disease, Parkinson's disease, Huntingdon's disease, age related dementia, age associated memory impairment, head trauma, stroke, anoxia, hypoxia and cerebral edema and diabetic neuropathy.

24. A method according to claim 23, wherein the condition is an ischemic condition.

25. A method according to claim 24, wherein the ischemic condition is selected from cerebrovascular disease, subarachnoid hemorrhage or trauma, prevention of ischemia reperfusion injury, renal ischemia, myocardial infarction, angina and cardiac ischemia.

26. A method of synthesizing an estrogen compound having a phenolic A ring and an alkyl ether functional group on carbon 17, comprising:

a. protecting -OH on the phenolic A ring;

b. alkylating the 17-OH with an alkylating agent in the presence of a strong base;

c. removing the protecting group from –OH on the phenolic A ring; and

d. purifying the 17- alkyl ether estrogen compound.

27. A method according to claim 26, wherein the –OH on the phenolic A ring is in the carbon 3 position.

28. A method according to claim 26, wherein the alkylating agent is selected from the group consisting of a alkyl halide, a dialkyl sulfate and an alkyl tosylate.

29. A method according to claim 26, further comprises: treating the -OH on the phenolic A ring with a base resistant protecting group.

30. A method according to claim 26, further comprising a protecting group being removable by acid hydrolysis or catalytic hydrogenolysis.

31. A method according to claim 29, wherein the base resistant protecting group is selected from tert-butyl, methoxymethyl, and 9-anthrylmethyl.

32. A method according to claim 30, wherein the protecting group is a benzyl or substituted benzyl group capable of being cleaved by hydrogenolysis.

33. A method according to claim 30, wherein the hydrogenolysis is achieved using $CF_3COOH$.

34. A method according to claim 26, wherein the strong base is sodium hydride.

35. A method according to claim 26, further comprising: removing the protecting

group by catalytic transfer hydrogenation.

36. A method according to claim 35, wherein the catalytic transfer hydrogenation utilizes ammonium formate.

37. A method of treating a subject having a degenerative disorder, comprising: obtaining at least one 17-O-alkyl ether of estrogen in a pharmaceutical formulation; and administering an effective dose of the 17-O-alkyl ether of estrogen to the subject so as to treat the degenerative disorder.

38. A method according to claim 37, wherein the degenerative disorder is a neurodegenerative disorder.

39. A method according to claim 38, wherein the neurodegenerative disorder is Alzheimer's disease and the effective dose of the 17-O-alkyl ether of the estrogen compound provides protection of a population of nerve cells from progressive cell damage leading to cell death otherwise occurring with out the intervention.

40. A method according to claim 37, further comprising administering the effective dose by any of an oral route, transdermal, topical or parenteral route of administration.

41. A method according to claim 37, wherein the degenerative disorder is an ischemia.

42. A method according to claim 41, wherein the ischemic condition includes ischemic reperfusion injury, myocardial infarction and cardiac ischemia.

43. A method of conferring cytoprotection of a population of cells, comprising:

(i) providing an 17β-O-alkyl ether of an estrogen compound; and

(ii) administering the compound in an effective dose to the population of cells so as to confer cytoprotection on the population of cells.

43. A method according to claim 42, wherein the population of cells is in a subject.

44. A method according to claim 42, wherein the population of cells is *ex vivo*.

45. A method according to claim 42, wherein the population of cells is graft cells.